



BLOWER PACKS

**For All Atmospheric
Humidifiers**

Installation Manual

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10-00

OVERVIEW

1. OVERVIEW

A. BLOWER PACK

- (1) Blower packs are an optional accessory used to directly distribute steam to localized areas or in structures that do not have a built-on air distribution system.
- (2) Blower packs are available factory installed (“built-on”) or for remote mounting. Remote blower packs are field piped to the humidifier. Built on Blower Packs are available with NHTC & NHPC humidifiers only.
- (3) All blower packs consist of a steel cabinet containing; 3 fans powered by a 115 Vac single phase supply (208, 277, 440-480 and 550-600 Vac version available), plastic steam distribution, and adjustable air supply.
- (4) Control thermostat, mounted on the steam distributor, starts the fans when steam is generated.
- (5) Refer to Overhead and Frontal Clearance table for blower pack requirements. Minimum clearance for the sides of the unit is 4 feet.
- (6) Steam distributors on blower packs have hot surfaces that could result in burns if touched. If space allows, it is recommended to mount the blower pack at least 8 feet above the floor.
- (7) Do not use blower packs as ducted blowers. The air volume from a blower pack is not sufficient to absorb the steam generated in the confines of a duct system.
- (8) It is recommended that balancing valves be used on the steam supply lines to multiple blower packs for equal loading.

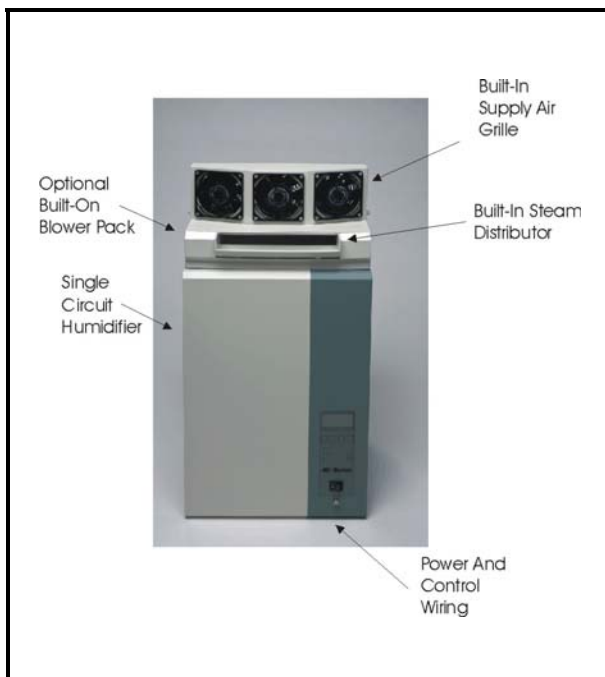


Figure 1. NHTC / NHPC Series Humidifier with Built-On Blower Packs

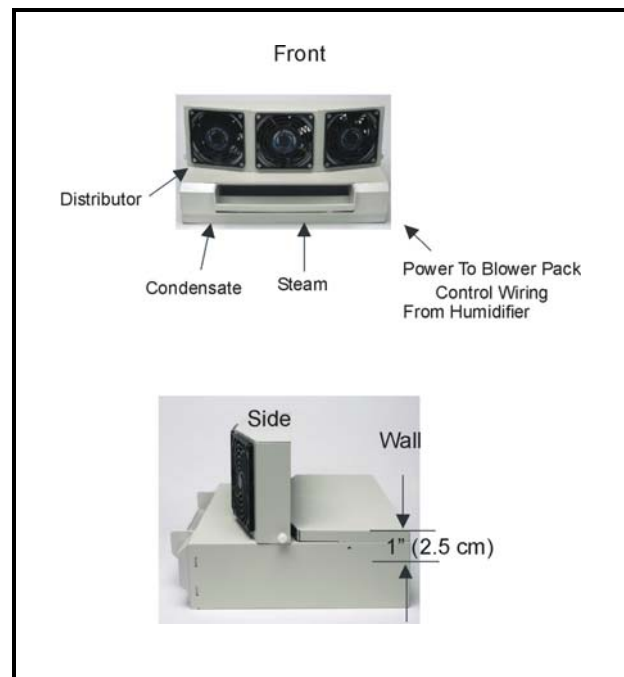


Figure 2. Blower Pack

B. REMOTE MOUNTED BLOWER PACKS – WALL MOUNTING

- (1) Steam and condensate line connections are on the bottom of the blower pack. The condensate connection is 3/8" and the steam lines are 7/8" or 1 1/2" depending. Ensure that the knock out on the steam inlet has been removed prior to use.
- (2) To wall mount the Remote Blower Pack use 2 #12 x 3" long wood screws, supplied by others. These screws must be fastened securely on a 2 x 4 wood stud or equivalent support. If any spacer material is used between the bracket and the structural material such as drywall, increase the fastener accordingly. In addition, install a single field supplied fastener in the center hole in the back of the unit to prevent the unit from being bumped off the support screws.

C. REMOTE MOUNTED BLOWER PACKS – STEAM LINE

NOTE

PRIOR TO CONNECTING THE STEAM HOSE ENSURE KNOCK OUT HAS BEEN REMOVED.

- (1) Field-supplied hard copper tubing or stainless steel tubing with 1/2" thick (min.) insulation is recommended for steam supply. Use NORTEC supplied steam hose to make connection from the humidifiers to the metal lines. See Figure 3 Steam Line Installation.
- (2) Do not install electric zone valves on steam lines. Improper adjustment will over-pressurize the humidifier.
- (3) NORTEC steam supply hose or field-supplied tubing should be sloped downwards from the blower pack to the humidifier. Slope should be at least 2" in 12" (10 degree slope) to promote condensate run back. See Figure 4 Steam Hose Installation. If upward slope is used from the blower pack to the humidifier, the slope should be at least 2" per 12" to promote condensate removal at the blower pack. If this slope is not possible, condensate must be removed before the blower pack. See Figure 5 Condensate Removal.
- (4) Minimize the length of steam line and keep it as straight as possible, minimizing bends. Avoid using 90° elbows. Wherever possible, use long radius turns (using tube bender on oversized copper or pairs of 45° elbows). This will reduce the condensate generated by heat loss. This will also reduce the back pressure and avoid the need to install an extended water trap.
- (5) Ensure that the steam hose does not kink or sag. The steam hose becomes more flexible when hot. The hose should be supported to prevent water traps. Only use steam hose for connection or steam line runs of 5 feet or less. See Figure 4 Steam Hose Installation.
- (6) To ensure odor-free steam, always use NORTEC steam hose. Check steam hose and hose couplings periodically for cracks, breaks, kinks. Replace as required. DO NOT substitute hose. NORTEC is not responsible for health effects or damage from substituted hose.
- (7) For GS, SE, and NH Series using large size remote mounted blower packs (>50 lbs/hr) use 1 5/8" O.D. (Nominal 1 1/2") copper tubing. For steam runs longer than 20 ft, use insulated nominal 2" copper to ensure draining of condensate.

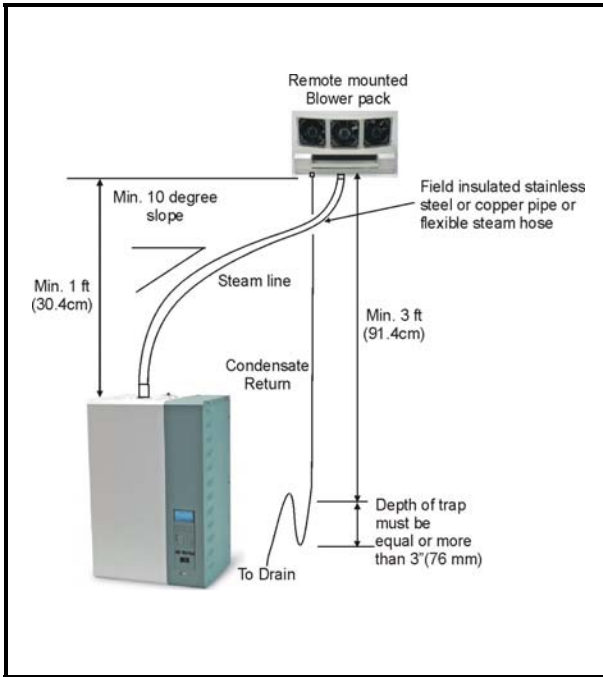


Figure 3. Steam Line Installation

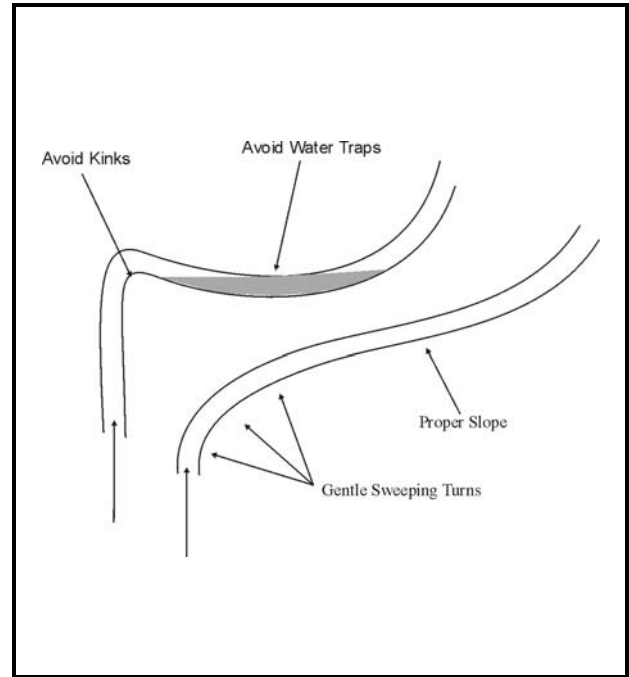


Figure 4. Steam Hose Installation

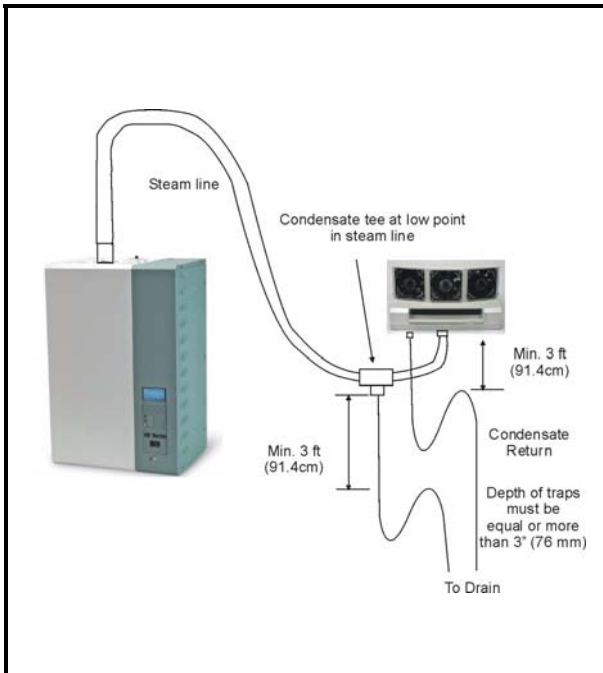


Figure 5. Condensate Removal

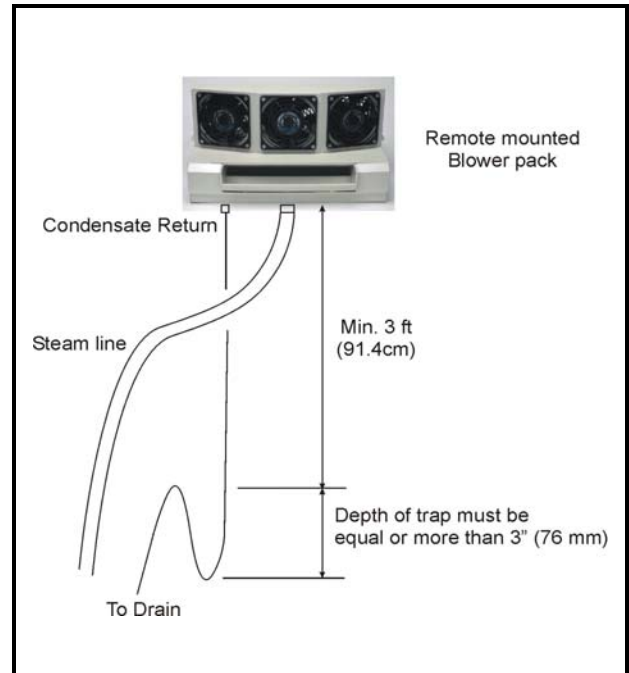


Figure 6. Condensate Return Line Trap

- (8) For electric humidifiers (NHTC & NHPC only) using a small size blower pack (<30 lbs/hr), steam lines require 7/8" O.D. (Nominal 3/4") copper tubing. For steam runs longer than 20 ft, use insulated nominal 1" copper to ensure draining of condensate.
- (9) When using the GS, SE, or NHRS Humidifiers with a RO / DI water supply, all steam lines should be in stainless steel.
- (10) Do not use plastic pipe for steam distribution or hose other than NORTEC supplied. Substitution will void warranty.
- (11) If steam line is routed below the blower pack, or if the blower pack is lower than the humidifier, a condensate trap "tee" will be required to remove water at this low point. Run the condensate from the trap to the nearest drain lower than the blower pack. See Figure 5 Condensate Removal.
- (12) Do not run the steam line more than 1 foot per lb/hr output. Example, 10 lbs/hr should not have a steam run longer than 10 feet. If long runs are unavoidable, the humidifier should be sized larger to compensate for condensate losses and insulated stainless steel or copper must be used.

D. CONDENSATE RETURN LINES

- (1) NORTEC blower packs have built-in connections for draining off condensate. These condensate lines must be connected to the nearest floor drain, back to the unit (NHTC & NHPC, NHRS only) or a condensate pump when using short condensate runs.
- (2) Always incorporate a trap in routing of condensate return lines. Condensate that accumulates in trap will prevent possibility of steam escaping. Depth of the trap must be equal or more than 3" (76 mm) See Figure 6 Condensate Return Line Trap.
- (3) Ensure the trap is at least 3 feet (1 m) below the blower pack and as close to the floor drain as possible.

E. PRIMARY VOLTAGE CONNECTION

- (1) All blower packs for SE and GS unit are wired by others to be powered by an independent circuit. Follow all codes.
- (2) A control thermostat, mounted on the blower pack, automatically starts the fans when steam is detected.
- (3) NH Series remote mounted blower packs wired to a humidifier or independent circuit require field wiring between two primary voltage terminal blocks and two low voltage control (class 1 circuit wiring required) terminal strips; one of each located in humidifier and remote blower pack cabinet. Knock-outs are provided on the humidifier to facilitate this. To connect the primary and control (class 1 circuit wiring required) wiring, the wiring is fed through the grommet provided in the bottom of the blower pack.
- (4) Field wiring of remote blower packs must conform to national and local electrical codes. Refer to wiring diagram supplied at the back of this manual (See page 9).

- (5) For NH Series use approved wire for power connection from two pole terminal block of remote blower pack to additional two pole terminal block inside electrical section of humidifier.
- (6) For NH Series use approved wire to connect from ground clamp of remote mounted blower pack to ground clamp provided in the electrical section of humidifier.

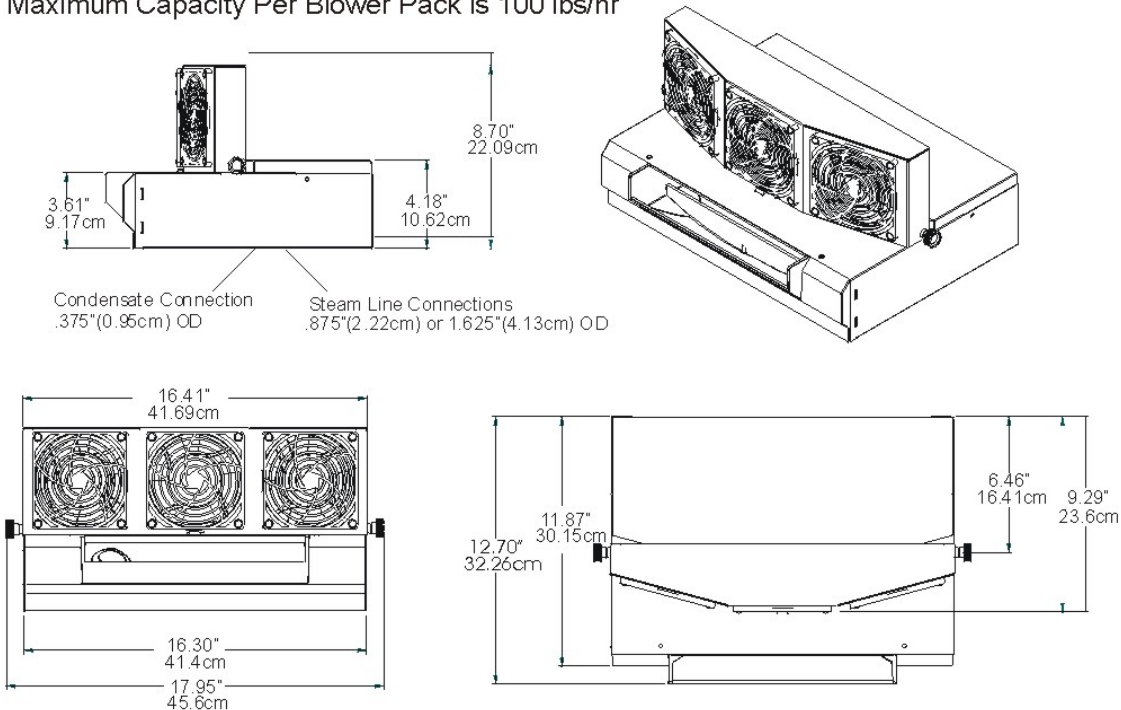
Overhead And Frontal Clearances For Blower Packs

| Model | Min. No. Of Blower Packs | Min. Overhead Clearance Inches (cm) | Min. Front Clearance Inches (cm) |
|-------|--------------------------|-------------------------------------|----------------------------------|
| 005 | 1 | 18 (45) | 30 (76) |
| 010 | 1 | 18 (45) | 30 (76) |
| 020 | 1 | 18 (45) | 36 (91) |
| 030 | 1 | 18 (45) | 72 (183) |
| 050 | 1 | 36 (91) | 84 (213) |
| 075 | 1* (2 Recommended) | 42 (106) | 144 (366) |
| 100 | 1* (2 Recommended) | 48 (122) | 156 (396) |
| 150 | 2* (4 Recommended) | 42 (106) | 144 (366) |
| 200 | 2* (4 Recommended) | 48 (122) | 156 (396) |

* Remote mounted only. Four remote mounted blower packs are recommended on the 200 model.

Nominal conditions 72° F, 35% RH.

Blower Pack Weight 120V model 12.5 lbs (5.68 kg). All other models 18 lbs (8.18 kg)
Maximum Capacity Per Blower Pack is 100 lbs/hr



Note: Add 8.70" (22.cm) to the over all unit height for BOBP for NHTC/NHPC Only

Figure 7. Physical Data Dimensions RMBP

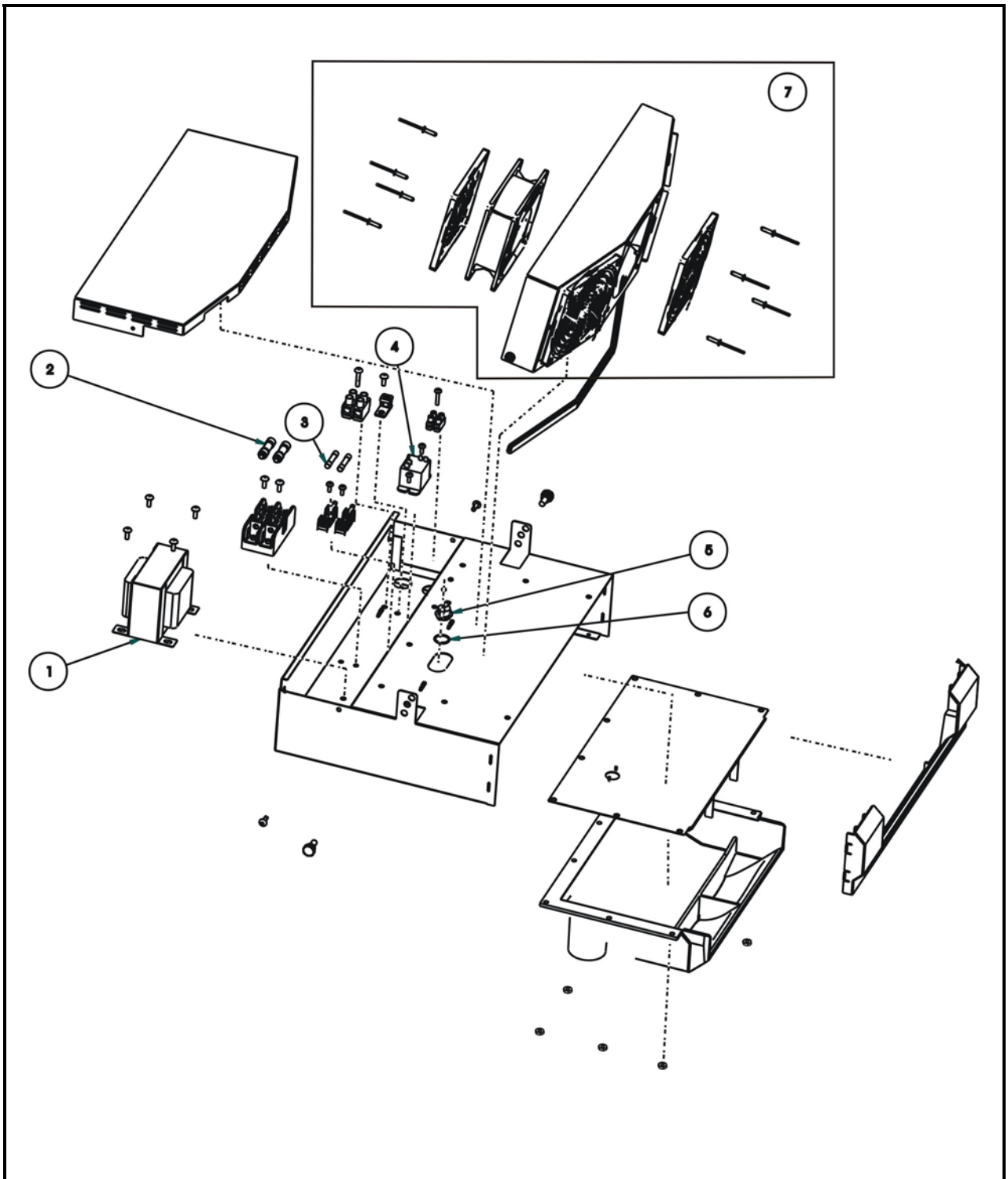


Figure 8. Blower Pack Spare Parts & Exploded View - Rev. C April 17, 2008

Table 1. Blower Pack Replacement Parts

| Item | Part Number | Description | Qty |
|------|-------------|--|-----|
| 1a | 2522064 | Transformer 100VA 115V - 208, 230, 277, 460, 575V 60 Hz For all models except 380V. | 1 |
| 1b | 2524204 | Transformer 100VA 115V - 380V, 50-60Hz For 380V models only. | 1 |
| 2 | 2524082 | Fuse, 1 amp, 600V, HCTR Slow Blow | 2 |
| 3 | 1583126 | Fuse, 1.5 amp | 2 |
| 4 | 2522070 | Relay, 30A, 115V SPDT | 1 |
| 5 | 1073005 | Thermostat (Replace 1475005 - O-ring for thermostat at same time.) | 1 |
| 6 | 1475005 | O-Ring for Thermostat | 1 |
| 7 | 2522222 | Blowerpack Fan Kit * | 1 |

***Fan kit is pre-assembled and includes all items identified by box on exploded view.**

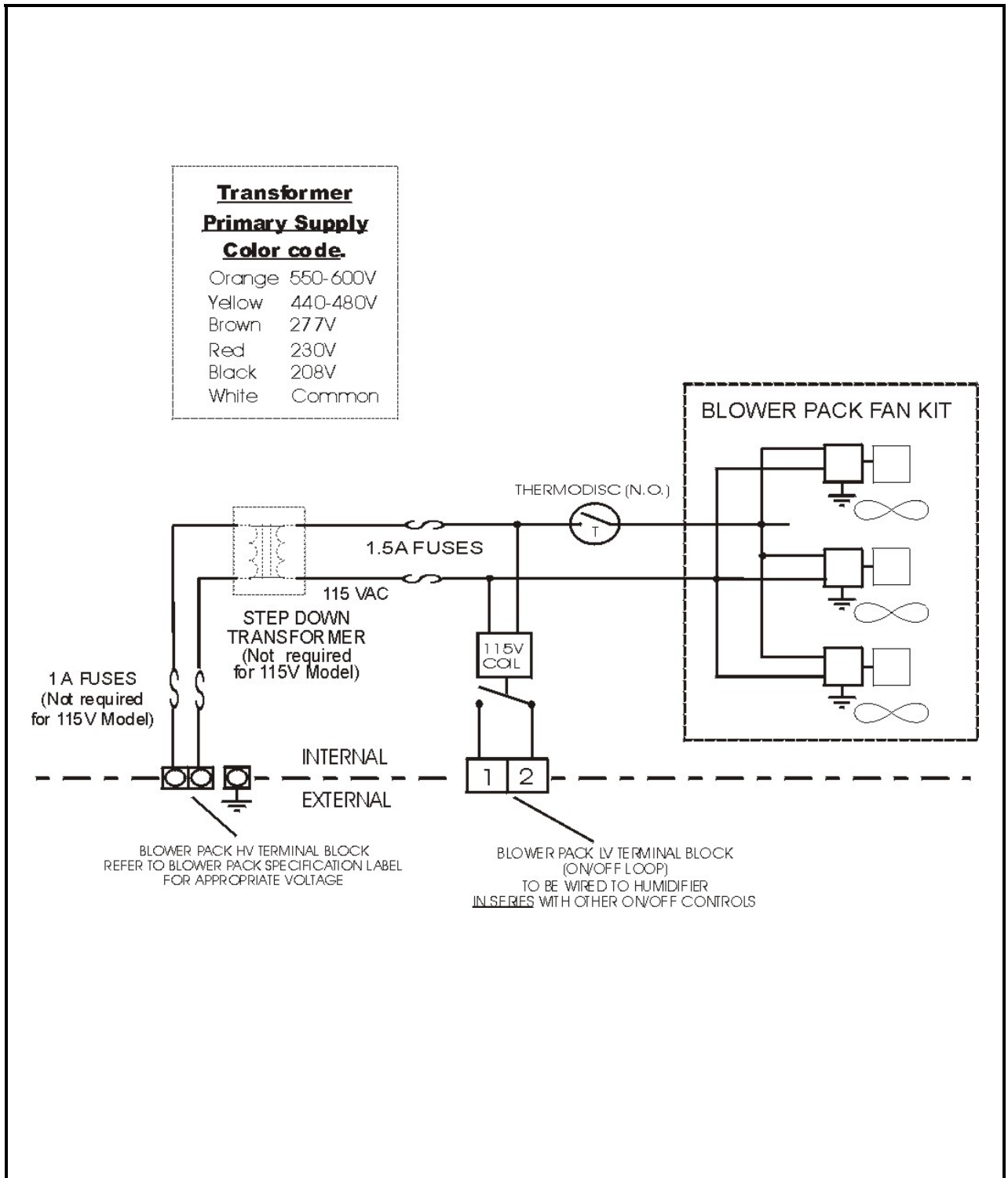


Figure 9. Wiring Diagram – Blower Pack Internal Wiring / External Connections
Wiring Diagram 2524117 Rev. B March 26, 2007

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WARRANTY

- (1) WALTER MEIER INC. and/or WALTER MEIER LTD. (hereinafter collectively referred to as THE COMPANY), warrant for a period of two years after installation or 30 months from manufacturer's ship date, whichever date is earlier, that THE COMPANY's manufactured and assembled products, not otherwise expressly warranted (with the exception of the cylinder), are free from defects in material and workmanship. No warranty is made against corrosion, deterioration, or suitability of substituted materials used as a result of compliance with government regulations.
- (2) THE COMPANY's obligations and liabilities under this warranty are limited to furnishing replacement parts to the customer, F.O.B. THE COMPANY's factory, providing the defective part(s) is returned freight prepaid by the customer. Parts used for repairs are warranted for the balance of the term of the warranty on the original humidifier or 90 days, whichever is longer.
- (3) The warranties set forth herein are in lieu of all other warranties expressed or implied by law. No liability whatsoever shall be attached to THE COMPANY until said products have been paid for in full and then said liability shall be limited to the original purchase price for the product. Any further warranty must be in writing, signed by an officer of THE COMPANY.
- (4) THE COMPANY's limited warranty on accessories, not of the companies manufacture, such as controls, humidistats, pumps, etc. is limited to the warranty of the original equipment manufacturer from date of original shipment of humidifier.
- (5) THE COMPANY makes no warranty and assumes no liability unless the equipment is installed in strict accordance with a copy of the catalog and installation manual in effect at the date of purchase and by a contractor approved by THE COMPANY to install such equipment.
- (6) THE COMPANY makes no warranty and assumes no liability whatsoever for consequential damage or damage resulting directly from misapplication, incorrect sizing or lack of proper maintenance of the equipment.
- (7) THE COMPANY retains the right to change the design, specification and performance criteria of its products without notice or obligation.

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